

Claims

1. A self-boosting electromechanical friction brake, having a friction brake lining, having an electromechanical actuation device with which the friction brake lining can be pressed for braking against a brake body to be braked, having a ramp mechanism that extends at an angle to the brake body and that braces the friction brake lining on being pressed against the brake body, the friction brake lining being supported displaceably on the ramp mechanism by roller bodies, characterized in that the friction brake (10) has a positive controller (34; 38, 40, 42; 44, 46) for the roller bodies (28), which prevents the roller bodies (28) from leaving their raceways.
2. The friction brake in accordance with claim 1, characterized in that the positive controller (38, 40, 42; 44, 46) prevents sliding of the roller bodies (28).
3. The friction brake in accordance with claim 1, characterized in that the positive controller has an end stop (34) for the roller bodies, which restricts the travel of the roller bodies (28).
4. The friction brake in accordance with claim 1, characterized in that the positive controller (38, 40, 42; 44, 46) positively moves the roller bodies (28) upon a displacement of the friction brake lining (14).

5. The friction brake in accordance with claim 4, characterized in that the positive controller has a gear wheel (38; 46) meshing with a rack (40, 42), and the gear wheel (38; 46) is connected or fixed to a roller body (28) and the rack (40, 42) is connected or fixed to the friction brake lining (14).

6. The friction brake in accordance with claim 5, characterized in that the positive controller has a gear wheel (38; 46) meshing with two racks (40, 42), one rack (40, 42) being connected to the friction brake lining (14) and the other being fixed.

7. The friction brake in accordance with claim 1, characterized in that the roller bodies (28), or a group of roller bodies (28), are joined together by a roller body cage (44), which keeps the roller bodies (28) at their spacing from one another and in their position relative to one another.

8. The friction brake in accordance with claim 7, characterized in that the positive controller (46) engages the roller body cage (44).

9. The friction brake in accordance with claim 1, characterized in that at least one roller body (28) guides the friction brake lining (14) transversely to its displacement direction in a statically determined way.

10. The friction brake in accordance with claim 9, characterized in that two roller bodies (28) guide the friction brake lining (14) transversely to its displacement direction

in a statically determined way; and that further roller bodies (28) guide the friction brake lining (14) not transversely to its displacement direction.

11. The friction brake in accordance with claim 9, characterized in that the roller body (28) is a ball, which is guided in two diametrically opposed spherical channels (48), and which in each spherical channel (48) is located at two points (50), one on each side of an imaginary lowermost line of the spherical channels (48).

12. The friction brake in accordance with claim 9, characterized in that the roller body (28) is a roller, which is disposed with an inclination transversely to a displacement direction of the friction brake lining (14).

13. The friction brake in accordance with claim 12, characterized in that the friction brake (10) has at least two rollers as roller bodies (28), whose inclinations are counter to one another.

14. The friction brake in accordance with claim 13, characterized in that the friction brake (10) has three rollers as roller bodies (28), which are located at the corners of an imaginary triangle, and the inclinations of radially inner rollers are counter to the inclinations of radially outer rollers.

15. The friction brake in accordance with claim 1, characterized in that the friction brake (10) is a partly lined disk brake.